

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF THE CLAIMS

1. (currently amended) A contaminant detecting system for determining the presence of a contaminant in a fluid used in a microbial decontamination process, comprising:

a capacitor having first and second conducting ~~plates~~elements, said fluid being a dielectric therebetween, and being used to process an article in the microbial decontamination process; and

sensing means for sensing a change in an electrical property of the capacitor, said change in the electrical property varying according to the presence of the contaminant in the fluid, said contaminant being removed from said article during the microbial decontamination process.

2. (currently amended) A contaminant detecting system according to ~~claim 2~~claim 1, wherein said sensing means includes a sensing circuit for sensing capacitance.

3. (currently amended) A contaminant detecting system according to claim 2, wherein said sensing circuit ~~includes for~~ includes means for generating a digital value indicative of an input capacitance.

4. (original) A contaminant detecting system according to claim 3, wherein said means for generating the digital value indicative of the input capacitance is selected from the group consisting of: a charge-transfer capacitance sensor IC and a capacitance-to-digital-converter (CDC).

5. (original) A contaminant detecting system according to claim 1, wherein said system further comprises:

control means for receiving a measured value from said sensing means indicative of the electrical property of said capacitor.

6. (original) A contaminant detecting system according to claim 5, wherein said control means includes:

means for comparing said measured value with a threshold value to determine whether a contaminant is present in the fluid.

7. (original) A contaminant detecting system according to claim 6, wherein said control means determines the presence of a miscible contaminant if said measured value is greater than said threshold value.

8. (original) A contaminant detecting system according to claim 6, wherein said control means determines the presence of a miscible contaminant if said measured value is less than said threshold value.

9. (currently amended) A contaminant detecting system according to ~~claim 6~~claim 1, wherein said contaminant is a miscible contaminant selected from the group consisting of: blood, urine, soap, detergent, antimicrobial chemicals, and miscible soil.

10. (original) A contaminant detecting system according to claim 5, wherein said control means includes:

means for detecting a spike in said measured value to determine whether a contaminant is present in the fluid.

11. (original) A contaminant detecting system according to claim 10, wherein said control means determines the presence of an immiscible contaminant upon the detection of said spike.

12. (currently amended) A contaminant detecting system according to ~~claim 11~~claim 1 wherein said contaminant is an immiscible contaminant ~~is selected~~selected from the group consisting of: dirt, bone matter, skin, organ tissue, and immiscible soil.

13. (currently amended) A method for determining the presence of a contaminant in a fluid used in a microbial decontamination process, comprising:

passing the fluid between a capacitor having first and second conducting ~~plates~~elements, said fluid being a dielectric therebetween, and being used to process an article in the microbial decontamination process; and

determining a change in an electrical property of the capacitor, said change in the electrical property varying according to the presence of the contaminant in the fluid, said contaminant being removed from said article during the microbial decontamination process.

14. (original) A method according to claim 13, wherein said electrical property is capacitance.

15. (original) A method according to claim 13, wherein said method further comprises: generating a measured value indicative of the electrical property of said capacitor.

16. (original) A method according to claim 15, wherein said method further comprises: comparing said measured value with a threshold value; and determining whether a contaminant is present in the fluid in accordance with said comparison.

17. (original) A method according to claim 16, wherein said method further comprises: determining the presence of a miscible contaminant if said measured value is greater than said threshold value.

18. (original) A method according to claim 16, wherein said method further comprises:

determining the presence of a miscible contaminant if said measured value is less than said threshold value.

19. (original) A method according to claim 15, wherein said method further comprises:
determining whether a change in the measured value has produced a spike in the measured value.

20. (original) A method according to claim 19, wherein said method further comprises:
determining the presence of an immiscible contaminant when said spike is detected.

21. (currently amended) A method according to ~~claim 20~~claim 13, wherein said contaminant is an immiscible contaminant selected from the group consisting of: dirt, bone matter, skin, organ tissue, and immiscible soil.

22. (new) A contaminant detecting system according to claim 1, wherein said microbial decontamination process is selected from the group consisting of: a washing process, an antimicrobial treatment process and a rinsing process.

23. (new) A contaminant detecting system for determining the presence of a contaminant in a fluid used in a microbial decontamination process, comprising:

a capacitor having first and second conducting elements, said fluid being a dielectric therebetween, and being used to process an article in the microbial decontamination process; and

sensing means for sensing a change in an electrical property of the capacitor, said change in the electrical property varying according to the presence of the contaminant in the fluid, said contaminant including a chemical used to effect microbial decontamination during a microbial decontamination process.

24. (new) A contaminant detecting system according to claim 23, wherein said sensing means includes a sensing circuit for sensing capacitance.

25. (new) A contaminant detecting system according to claim 24, wherein said sensing circuit includes means for generating a digital value indicative of an input capacitance.

26. (new) A contaminant detecting system according to claim 25, wherein said means for generating the digital value indicative of the input capacitance is selected from the group consisting of: a charge-transfer capacitance sensor IC and a capacitance-to-digital-converter (CDC).

27. (new) A contaminant detecting system according to claim 23, wherein said system further comprises:

control means for receiving a measured value from said sensing means indicative of the electrical property of said capacitor.

28. (new) A contaminant detecting system according to claim 27, wherein said control means includes:

means for comparing said measured value with a threshold value to determine whether a contaminant is present in the fluid.

29. (new) A contaminant detecting system according to claim 28, wherein said control means determines the presence of a miscible contaminant if said measured value is greater than said threshold value.

30. (new) A contaminant detecting system according to claim 28, wherein said control means determines the presence of a miscible contaminant if said measured value is less than said threshold value.

31. (new) A contaminant detecting system according to claim 23, wherein said contaminant is a miscible contaminant selected from the group consisting of: soap, detergent, and an antimicrobial chemical.

32. (new) A method according to claim 13, wherein said contaminant is a miscible contaminant selected from the group consisting of: blood, urine, and miscible soil.

33. (new) A method according to claim 13, wherein said microbial decontamination process is selected from the group consisting of: a washing process, an antimicrobial treatment process and a rinsing process.

34. (new) A method for determining the presence of a contaminant in a fluid used in a microbial decontamination process, comprising:

passing the fluid between a capacitor having first and second conducting elements, said fluid being a dielectric therebetween, and being used to process an article in the microbial decontamination process; and

determining a change in an electrical property of the capacitor, said change in the electrical property varying according to the presence of the contaminant in the fluid, said contaminant including a chemical used to effect microbial decontamination during a microbial decontamination process.

35. (new) A method according to claim 34, wherein said electrical property is capacitance.

36. (new) A method according to claim 34, wherein said method further comprises: generating a measured value indicative of the electrical property of said capacitor.

37. (new) A method according to claim 36, wherein said method further comprises: comparing said measured value with a threshold value; and determining whether a contaminant is present in the fluid in accordance with said comparison.

38. (new) A method according to claim 37, wherein said method further comprises:

determining the presence of a miscible contaminant if said measured value is greater than said threshold value.

39. (new) A method according to claim 37, wherein said method further comprises:
determining the presence of a miscible contaminant if said measured value is less than said threshold value.

40. (new) A method according to claim 34, wherein said contaminant is a miscible contaminant selected from the group consisting of: soap, detergent, and an antimicrobial chemical.

41. (new) A method according to claim 34, wherein said microbial decontamination process is selected from the group consisting of: a washing process, an antimicrobial treatment process and a rinsing process.